

## ABSTRACT

The phases of distortions of a signal outputted from an amplifier are measured. A phase measurement device (1) measures an output of an amplifier (20) when an input signal having input frequency components  $\omega_{10}$  and  $\omega_{20}$  is fed to the amplifier (20). The phase measurement device (1) includes multipliers (34a, 34b) for orthogonally transforming the output of the amplifier (20) by means of  $\omega_c$ , a phase acquisition section (40) for acquiring phases  $\theta_1$  and  $\theta_2$  of the input frequency components  $\omega_{10}$  and  $\omega_{20}$  in the output of the multipliers (34a, 34b), and  $\theta_3$  and  $\theta_4$  (third distortion), and  $\theta_5$  and  $\theta_6$  (fifth distortion) of the distortion components, a match time/phase measurement section (50) for measuring a match time point  $\Delta t$  when  $\theta_1$  and  $\theta_2$  match each other according to the acquisition result of the phase acquisition section (40), and a distortion component phase measurement section (60) for measuring phases  $\theta_3$  to  $\theta_6$  of the distortion components at the match time point  $\Delta t$  according to the acquisition result of the phase acquisition section (40). The phase acquisition section (40) acquires at least one of  $\theta_1$  and  $\theta_2$ , and  $\theta_3$  and  $\theta_5$  (with the frequencies higher than those of  $\theta_1$  and  $\theta_2$ ) or  $\theta_4$  and  $\theta_6$  (with the frequencies lower than those of  $\theta_1$  and  $\theta_2$ ).